I. Project Title and Project Purpose Statement

Improving Livability: Assessing the Potential for Composting in Huntington, WV

The goal of this project is to promote the creation of a local food system as a community development strategy to improve city-wide livability. The project managers will research the feasibility of composting by measuring volume and weight of material available, visiting successful composting operations, and meeting with city leaders to gain community support. In 2014, Unlimited Future, Inc., participated in the Livable Communities in Appalachia Technical Assistance Program, supported by the Appalachian Regional Commission, Environmental Protection Agency, and the United States Department of Agriculture. The focus of the Livable Communities in Appalachia Technical Assistance Program centered on developing a viable, locally based food economy and local food system. Composting is an essential piece of the food system plan, closing the loop between food waste and food production.

Administrative Office: Unlimited Future, Inc. 1650 8th Avenue, Huntington, WV 25703
Research Office: Marshall University Sustainability Department, 1 John Marshall Drive, Huntington, WV 25755
Collection Site: Marshall University Harless Dining Hall, 1 John Marshall Drive, Huntington, WV 25755
Collection Site: The Wild Ramp, 555 14th Street West, Huntington, WV 25704

Solid Waste Disposal Act, Section 8001(a)

This project will investigate the potential volume of food waste that could be diverted from a local landfill for more efficient digestion via composting. The US EPA has identified landfills as the single largest source of methane, a potent greenhouse gas.

As part of an effort to build a more climate resilient community, a focus on both locally grown and raised foods, could yield significant reductions in local greenhouse gas emissions. Huntington's local efforts to create a more stable local foods system helps to increase community self-reliance. As we look for more ways to improve our local food system, we believe that, by composting, we can also discover opportunities for further conservation locally.

II. Environmental, Public Health and Community Climate Resiliency

Huntington has faced decades of decline in population, economic opportunity and overall measures of livability. A focus on local foods has increased opportunities for local farmers and food processors, while also improving access to fresh local foods. Sales at The Wild Ramp show sustained growth and efforts to localize food, art, culture and economy continue to grow across the city. These efforts have improved our community climate resiliency. However, we believe that by exploring the possibility of citywide composting, it will increase community self-reliance while, also creating opportunities for entrepreneurs and improving land management practices.

Huntington, West Virginia is located in the westernmost part of the state where Ohio, Kentucky and West Virginia converge at the banks of the Ohio River. Huntington has a population of approximately 49,000 (US Census). Once a gateway to the intercontinental railroad system, Huntington still serves as a regional hub for transportation, business, food and

culture in the Tri-State Area. Huntington's major employers are the Cabell County School System, Marshall University, and two teaching hospitals (Cabell Huntington and St. Mary's).

PUBLIC HEALTH AND COMMUNITY NEED

Huntington is known for being an unhealthy and an unhappy place to live according to national news sources and health statistics. Huntington ranks 2nd to last on the Gallup Well-Being Index according to a 2013 news report. The index takes into consideration physical health, economic indicators and personal perceptions of well-being. The CDC reports that the leading behavioral risk factor for premature death is lack of fruits and vegetables in diet, followed by high blood pressure, obesity and lack of exercise. Economic indicators show 30% rate of individuals below the poverty level (US Census Bureau Quick Facts) and a 5.5% rate of unemployment (Workforce WV).

ENVIRONMENT AND LAND USE

Huntington has had to collect, transport, and pay for out-of-state disposal of their refuse. The City of Huntington reports that nearly 60-75 tons of waste is delivered per day to Big Run Landfill, located about 20 miles away near Canonsburg, KY. Of the $3.6 Mil annually budgeted for the Sanitation and Trash Department, over $450,000 is earmarked for the disposal costs of hauling the trash to Big Run Landfill and paying the dumping fees.

In recent years Huntington city government and residents have made progress toward improving land management practices and curbing urban blight. Huntington has established the first land bank in the state of West Virginia in order to address the abandon and dilapidated buildings. Cabell County launched a highly successful single stream recycling program in 20XX, which doubled in the number of drop-off points in the first year.

COMMUNITY CLIMATE RESILIENCY

Composting will reduce local waste management costs, by redirecting biodegradable materials from the waste stream, and improving both community resiliency and sustainability. In addition, composting can be a part of drastically reducing a community's greenhouse emissions.

The 2009 report "Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices" shows that approximately 13% (percent) of U.S. greenhouse gas emissions (GHGs), or approximately 10 tons per day, are associated with the energy used to produce, process, transport, and dispose of the food we eat (http://epa.gov/climatechange/climate-change-waste/).

In a report by the US Composting Council, cited the mixing of biodegradable waste with non-biodegradable waste results in the release of methane during anaerobic digestion. Recent waste composition studies estimate that approximately 72% of the municipal waste stream going to landfills is organic (6% wood, 7% textiles/leather, 13% yard debris, 12% food scraps, 34% paper). The US EPA has identified landfills as the single largest source of methane (CH4), a potent greenhouse gas (GHG) that is 23 times more efficient at trapping heat than carbon dioxide (CO2). Landfills contribute approximately 34% of all man-made methane released to the atmosphere in the US (USEPA, 2007).

Of the GHG emissions nationally produced in the US, 28% stem from transportation and 10% from agriculture (http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html). As part of an effort to build a more climate resilient community, a focus on both locally grown and raised foods, could yield significant reductions in local GHG emissions. Huntington's local efforts to create a more stable local foods system helps to increase community self-reliance.

As we look for more ways to improve our local food system, we believe that, by exploring the opportunities for and feasibility of entrepreneurial composting, we can also discover opportunities for further GHG reductions locally. In addition, we can help to create more farmable lands within and near city limits through deep compost soil remediation of reclaimed urban lots.

The greater Huntington community will benefit from our project through education, empowerment, policy change, increased entrepreneurial opportunities, and the potential to greatly reduce local waste management costs and GHG emissions, while improving the volume of land that could be used for farming both in and near the city.

III. Organization's Historical Connection to the Affected Community

Unlimited Future, Inc. is a community driven economic development organization. We build capacity for individuals to become successful entrepreneurs, through training, incubation, and personalized coaching. Unlimited Future, Inc. was founded in 1997 to support emerging businesses, especially woman-owned and minority-owned businesses. In the Tri-State Area over 350 businesses have participated in Unlimited Future, Inc.'s programming.

Unlimited Future, Inc. believes that a focus on local food builds community and economy, and has led in the development of a local food system for five years. Through a partnership with Appalachian Centers for Economic Networks (Athens, OH), Unlimited Future, Inc. has enhanced training and resources for food and farm businesses. Unlimited Future, Inc. hosts an annual networking event with food and farm business owners, including restaurants, to promote the use of local foods and growth of bulk purchases of local foods. In 2013, this event was attended by over 80 representatives of businesses and support agencies.

In 2012, Unlimited Future, Inc. incubated The Wild Ramp is a local food market that provides a single point of sale for over 150 small farmers and food processors. The Wild Ramp was created through a series of community meetings and went from an idea to a real storefront in six-months-time. Since opening, The Wild Ramp has returned over $650,000 in revenue to local farmers within 250 miles of Huntington. The Wild Ramp has improved community access to fresh foods. Whereas most commercially available produce travel across the country, produce found at the Wild Ramp often travel 50 miles or less to market. In addition, the Wild Ramp is supported by over 500 hours of volunteer labor per month. These volunteers have a vested interest in the success of the market.

In 2014, Unlimited Future, Inc. Participated in Livable Communities in Appalachia Technical assistance program supported by the Appalachian Regional Commission, Environmental Protection Agency and United States Department of Agriculture. The focus of the Livable Communities Technical Assistance centered on creating a viable, locally based food economy- a local food system. The Renaissance Planning Group led 30 community stakeholders through a two-day workshop, where participants were invited to take a look at the big picture. Business owners, non-profits, service agencies, and farmers worked in small groups

to break four big ideas into bite-sized action steps. The report was published on December 3rd, 2014 and included an estimated budget of 1.2 million dollars for all projects with one-third of the funding already in place.

IV. Project Description

Since 2012, the success of the Wild Ramp has demonstrated the capacity of the Huntington community to create change and improve livability. The Wild Ramp provides access to fresh foods grown and processed within 250 miles of Huntington. This reduces the time and resources spent transporting food to market and increases opportunities for food and farm entrepreneurs. Unlimited Future, Inc. believes that by building the local food trend into an economic sector, the social and economic benefits of local food can increase community livability.

Local food creates a sense of place and pride in communities. Residents enjoy the freshness and quality of locally grown produce as well as the nostalgia of home gardens, canning and living off the land. However, in order to create a change in community livability, systems that support the production, harvesting, processing, and marketing of local food must be created to ensure future success. The Livable Communities in Appalachian technical Assistance Program provided Unlimited Future with an Action Plan to promote community livability through building a local food system.

SMALL CASE STUDY

During the first 2 months of our project, Unlimited Future, Inc. (UFI) will work with the Marshall University Sustainability Department (MUSD) to identify target businesses and support agencies for our small-set data sampling. The goal is to select a representative example of the following types of compostable waste producers: restaurants, grocery store/farmers market, schools, landscaping businesses, municipalities. Our small-set data sampling would be based on 5 case studies, to measure the volume and weight of local compostable material that could be collected and diverted from the local waste stream. This case study will likely include: 1) The Wild Ramp - waste generated at a market/ grocery store from produce waste; 2) Marshall University - vegetable preparation waste generated at a school cafeteria; 3) A local restaurant - vegetable preparation waste generated at an average restaurant; 4) A local landscaping company - grass and leaf waste collected by an average landscaping company; 5) The City of Huntington - waste leaves generated each fall.

Once identified, UFI and the MUSD will coordinate with these entities their participation in the study for 4 months. The Marshall University Harless Dining Hall is already participating with the MUSD in collecting their vegetable preparation waste for composting by an area farmer. With each case study, we will schedule specific sample days, 6-10 days each month for each location. On those days, the MUSD will provide our participants with special trash bags and/or receptacles for collecting their compostable waste, and forms for recording the number of people or places served. At the end of the day, MUSD staff and MU students will collect and measure the waste in volume by gallons and weight by pounds. These measurements, including the population served, will be recorded and entered into a spreadsheet for analysis. Over the 4 month period, approximately 36 measurements will be collected from each participating site, providing sufficient data to calculate a valid average of divertible waste for that location and

season. In the process, participating locations will be educated by MUSD staff on the benefits of diverting biodegradable waste.

We will also identify an in-city location to accept our collected compostable materials, such as a local greenhouse or landscaping business. In this way, or small-sample study will actually divert waste from the landfill, albeit in small amounts. We also hope that our case study locations will become energized by the experience and continue to divert their biodegradable food waste, in partnership with the identified in-city location, once the study is completed.

During the last 6 months of the project, we will use our findings to broadly estimate, in part, the tonnage of compostable waste that could be diverted from our local waste stream, and from the Big Run Landfill in KY, if a community composting plan was implemented in partnership with area restaurants, schools, grocery stores and markets, landscaping companies, and the City of Huntington.

For each representative example of the types of compostable waste producers, we will create a city-wide rough estimate, and then combine them for a total rough estimate. This will become our baseline data on the potential volume and weight of biodegradable waste that could be diverted.

For area schools, we will calculate the average volume of vegetable preparation waste generated per student at the MU Harless Dining Hall, based on the number of students served during our sample days. We will then use that per-student volume and multiply it by the total number of students served school meals in Huntington city limits (elementary through university age), and then by the days in an average school year. This should give us a rough estimate as to the annual volume of school-meal generated vegetable preparation waste that could be diverted from the landfill and into community composting programs.

For restaurants and grocery stores/markets, we will calculate the average volume of vegetable preparation waste generated per day at our case study locations, and then multiply that result by the total number of similarly styled restaurants and/or grocery stores/markets in Huntington. A year total will also be calculated.

For landscaping and leaves, we will calculate the average volume of grass clippings and/or leaves generated per day at our case study location, and then multiply that result by the total number of similarly sized landscaping companies in Huntington. A year total will also be calculated. We will supplement our leaf collection numbers with estimates provided by the City of Huntington.

Lastly, we will add all of these measurements (in lbs) to create a total rough estimate of Huntington's potential compostable waste that could be diverted from the landfill each year, and how much money Huntington could save in disposal fees to Big Run Landfill in KY. With this estimate, we will also be able to estimate the tonnage of locally produced GHGs that would be reduced through community composting.

The MUSD will collect, analyze and develop reports on our findings. The MUSD will also develop and propose a community composting plan for Huntington, WV. This plan will serve also as a market feasibility study for municipal and/or entrepreneurial composting. These reports and proposals will be delivered to UFI for review. Once approved, we will jointly present them to the City of Huntington, and later make them available for review by the community at large both online on the MUSD website, and in print at The Wild Ramp.

LITERATURE REVIEW & REPORTING

The MUSD will conduct a series of literature reviews during the length of the project.

- Policies: During the first half of this project, we will begin identifying and analyzing successful "green" policies from pertinent counties and cities, such as Kanawha WV, Chattanooga TN, West Oakland CA, Oberlin and Athens OH, and many others that support urban agriculture, urban agriculture, renewable energies, recycling, composting, walkable and bikeable communities, and many other greening efforts.
- Composting: Of the successful policies found, further literature review of composting policies and methods will be conducted, with a focus on entrepreneurial support efforts, and profitability: how to make entrepreneurial composting successful. This would include concepts such as bulk vs bagged, pricing appropriate to the market, "artisan" or "gourmet" compost.
- Resiliency: We will continue our literature review on policies during the second half of this project, focusing on those which would facilitate and maximize local food production, using local compostable waste, urban lands, and local farms, to help our food-insecure community become more food-resilient during times of national food shortages.
- Reporting: During the last 6 months of the project, the MUSD will report on our findings, highlighting those that may work best for Huntington and Cabell County, and deliver it to UFI for review. Once approved, we will jointly present them to the City of Huntington, and later make them available for review by the community at large both online on the MUSD website, and in print at The Wild Ramp.

In this way, we will improve community livability through increase local knowledge of land management policies, increased opportunities for municipal and/or entrepreneurial composting, increased community understanding of the impact of waste on the environment and ways we can reduce, recycle and compost household waste, and increase the number of local leaders in support of localized food sourcing, composting, home gardening and recycling programs.

After this study is complete, we look to see entrepreneurs and city leaders to form a collaboration on a pilot composting program, for the City of Huntington to "green" their land management policies to improve citywide livability, and for more residents to implement home composting and/or decrease their household waste output.

OUTREACH

Unlimited Future, Inc. will lead in the creation of a composting fact sheet and outreach program. The program will include an interactive presentation for all ages that would explain why and how reusing, recycling, composting and reducing consumption contribute to a healthier more livable community. Visual aids will be used to represent waste volume per household and activities will engage residents in sorting what is compost and recyclable vs what must go to the landfill. Residents will have the opportunity to see backyard composters and learn about the research project conducted by the Marshall University Sustainability Department. The goal of this outreach is to distribute information to 250 residents and build support for the composting program.

The greater Huntington community will benefit from our project through education, empowerment, policy change, increased entrepreneurial opportunities, and the potential to

greatly reduce local waste management costs and GHG emissions, while improving the volume of land that could be used for farming both in and near the city.

Unlimited Future, Inc. will coordinate project activities with Marshall University Sustainability Department through in-person meetings and email communications. Marshall University Sustainability Department will lead in research and local data collection. Student Volunteers will be recruited by the Sustainability Department in order to measure the food waste at each collection site. The Sustainability Department's Research and Community Outreach Assistant will conduct a review of land management policy and composting systems, as well as oversee the student volunteers.

FIELD TRIP

The Project Manager and Research team will take a one-day trip to Athens, OH. The Composting Exchange is a successful entrepreneurial composting program that now offers curbside compost pickup. This business received support services from Rural Action a non-profit organization, who has been included for contractual services in the budget. Two staff members will spend one-day to answer questions and tour composting facilities. The information shared on this visit will inform the feasibility study an offer a model for consideration to the research team.

MILESTONE CHART

	Inputs/Resources	**Activities**	**Outputs**	**Outcomes**
6-month	Unlimited Future, Inc. Staff Community Volunteers MU Sustainability Research and Community Outreach Assistant MU Students Livable Communities in Appalachia Food System Plan Goal 3.2	-Identify target businesses and support agencies for the study -Measure volume and weight of available compostable materials -Research policies used in other states and cities concerning land use, urban agriculture, and composting -Visit Athens Ohio- The Composting Exchange	-Target businesses become aware of benefits of diverting biodegradable waste -Baseline data produced on the potential volume and weight of biodegradable waste at target businesses -Increase local knowledge of land management policies that improve community livability	-Target businesses are energized by experience and continue to divert biodegradable food waste. -Data informs a market feasibility study for municipal and/or entrepreneurial composting -Land Management policies improve citywide livability

project end	Unlimited Future, Inc. Staff Community Volunteers MU Sustainability Research and Community Outreach Assistant MU Students	-Generate a market feasibility report about compost volume and potential for either municipal and/or entrepreneurial composting -Draft and present land management policy report to the City of Huntington on urban agriculture, composting and land use policies -Promote diversion of biodegradable material from waste stream to 250 city-residents through an outreach program	-Market feasibility study increases opportunities for municipal and/or entrepreneurial composting to improve city-wide livability -Local leaders see impact of land management policies on community livability in other places -Residents understand the impact of waste on the environment and learn ways to reduce, recycle and compost household waste.	-Entrepreneurs and city leaders collaborate on a pilot composting program -Land management policies improve citywide livability -Residents implement home composting and/or decrease household waste output

V. Organizational Capacity and Programmatic Capability

Unlimited Future, Inc. in partnership with Marshall University Sustainability Department have the experience and capacity to complete the grant activities. Marshall University Sustainability Department will leverage experience and resources to complete the research portion of this project. Unlimited Future, Inc. will manage grant funds, coordinate outreach activities and participate in meetings with local leaders, business owners and community members.

Unlimited Future, Inc. has the capacity to administer Environmental Justice Small Grants Program. The organization has more than seventeen years experience with grant administration. Some of the grants are listed below:

- Community Development Block Grant (City of Huntington): 1997 – 2014
- United States Small Business Administration PRIME Grant: 2004 – 2011 (Federal)
- Local Food Promotion Program United States Dept. Agriculture 2014-2016 (Federal)
- Central Appalachian Network: 2012 and 2013
- United Way of the River Cities Impact Grants: 2012 – 2015
- J.P. Morgan Chase Foundation: 2007 – 2014

The organization acquires an outside audit of its financial position each year through an independent Certified Public Accountant firm. We use QuickBooks accounting software to track grant income and expenses. We use Vista Share Outcome Tracker (a web based tracking software) for reporting community engagement and managing client contact and demographic

information. Unlimited Future, Inc. subscribes to Constant Contact (an email marketing service) and uses social media to stay in contact with the community members and clients.

This project is a part of a plan to improve livability for city residents developed through the Livable Communities in Appalachia Technical Assistance program, sponsored by the Appalachian regional Commission, Environmental Protection Agency, and United States Department of Agriculture. The action plan was developed over a 6-month time frame that included a two-day community workshop attended by over 30 stakeholders. Melissa Kramer of the Environmental Protection Agency was involved in the planning, workshop and follow-up.

VI. Qualifications of the Project Manager (PM)

Lauren Kemp, Local Food Business Program Director, will serve as the project manager and has five years experience in leading community development projects. Lauren has been employed by Unlimited Future, Inc. for two years, focusing her work on building capacity for food and farm entrepreneurs. Lauren also serves the Board of Directors for the Wild Ramp and Ohio Valley Environmental Coalition. Lauren has experience administering federal grant programs, including the Local Food Promotion Program (14-LFPPX-WV-0190) and USDA Rural Business Enterprise Grant. Lauren has created training programs and events specifically for farmers to increase their business and financial decision making skills. Lauren is a Marshall University graduate with a Bachelor's Degree in Sociology. While on campus, Lauren campaigned for the institution of the Sustainability Department and won the majority of support for a campus wide green fee ($5/student/semester) which continues to fund the department.

Eve Marcum-Atkinson, Sustainability Research and Community Outreach Assistant for the Marshall University Sustainability Department (MUSD) will oversee and conduct much of the MUSD's data collection, small-sample study, education outreach, and reporting. Her 4 years of experience as both a Cabell County Master Gardener (CCMG) and as the Project Coordinator for the Huntington Community Gardens (HCG) makes her uniquely qualified concerning the concepts of sustainable composting and urban land rehabilitation into farmable spaces. Through the HCG, she assisted in the fostering of over a dozen new urban garden spaces using vacant lots and local compost. In addition, through her community outreach work with the HCG, the CCMG, and the MUSD, she has over 5 years of experience with community outreach on a wide variety of topics, including sustainability, urban gardening, and organic composting methods. Finally, her 3 years serving as Evaluation Coordinator for the Weed and Seed Project, and 1 year as the Survey Coordinator for the River 2 Rail Project, provided ample experience with surveying the needs and opinions of the community. Additional duties with the Weed and Seed Project included community leader interviews, as well as attending and reporting on community meetings at the Barnett Center and Weed and Seed meetings at the Huntington Police Station. Additional duties with the River 2 Rail Project included editing survey questions to match the change in location and the change in data collection goals, as well as editing the data entry spreadsheets accordingly.

VII. Past Performance in Reporting on Outputs and Outcomes

SBAHQ-10-Y-0004, microenterprise training and technical assistance for disadvantaged entrepreneurs in the Huntington-Tri-State Area, $36,360, Small Business Administration2012-2013 PRIME Grant, Adrienne Y Dinkins.

Unlimited Future quarterly reported the results of the prime grant both with a qualitative description of activities and by counting number of low income served using FORM#. Along with quarterly reports, also tracked each dollar spent through the grant program in each funded category. Outcomes were met through program activities and we funded for several consecutive years.

14-LFPPX-WV-0190, building Capacity for Distributing Local Foods in the Ohio Valley, $100,000, USDA Agricultural Marketing Service, 2014-2016, Arthur Neal

Unlimited Future reports on a quarterly basis the amount of reimbursable grant funds spent with receipts and provides a written report of completed activities. Grant objects are being met in a timely fashion, including the hiring of a new staff person and holding an annual meeting.

FY14-Rural Business Enterprise Grant, $50,000, Rural Development- United States Department of Agriculture, Bobby Lewis

Outcomes are reported month with a written summary and reimbursement request form detailing grant funds expended. Reports are approved by the program officer and all outcomes have been met up to this point of the grant period. Including the launch of a new farmer focused business training series.

VIII. Quality Assurance Project Plan (QAPP) Information

A Quality Assurance Project Plan will be needed for the research conducted and subsequent reporting of new data. Marshall University Sustainability Department will use existing computer databases to investigate land management practices in nearby places. These computer databases are hosted by Marshall University and contain scholarly and peer reviewed articles. Student Volunteers will measure volume in gallons using standard five gallon buckets and weight in pounds using a calibrated digital scale. Sampling will be conducted on scheduled days with collection sites over the span of six months. Conclusions about the potential and feasibility of urban composting will be determined from this research.